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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,814	08/19/2003	Byung-Jik Kim	P23232	3097
7055	7590	11/22/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C.			GILLAN, RYAN P	
1950 ROLAND CLARKE PLACE			ART UNIT	
RESTON, VA 20191			PAPER NUMBER	
			3746	
DATE MAILED: 11/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

TAM

Office Action Summary

Application No.

10/642,814

Applicant(s)

KIM ET AL.

Examiner

Ryan P. Gillan

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, are rejected under 35 U.S.C. 102(b) as being anticipated by Oh et al. (6,152,710). Oh et al. teach a reciprocating compressor comprising: a piston (60) which reciprocates in a cylinder (30) by receiving a driving force of a reciprocating motor (col. 1 lines 41-44) and has a gas suction (60a) path therein and a suction valve (63) mounted at an end surface of the piston to control flow of taken in gas through the suction path. A valve assembly having a discharge cover (90) engaged to one side of the cylinder, a discharge valve (400) installed at an end portion of the cylinder to control gas discharge of a compression space formed by the cylinder and the piston, and a valve spring (35) that elastically supports the discharge valve. A suction valve fixing member (64) engaged to a frontal surface of the piston to receive the suction valve for back and forth movement. The suction valve opens the suction path at the time when gas is taken in and closes the suction path at the time when gas is compressed and is provided with supporting surfaces at the outer circumference thereof, and suction surfaces that pass gas are formed between the supporting surfaces (col.1 lines 25-38). The suction valve is composed of a thin plate (clearly seen in figure 9).

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh et al. (6,152,710). Oh et al. teach all of the above cited limitations as well as an insertion groove (clearly seen in figure 9) formed at the rear surface of the discharge valve (400) to receive the round head rivet, but fail to teach the suction valve fixing member having a cylindrical shape which is forcibly fit onto a frontal side of the piston, a round head rivet that fixes the suction valve to the piston. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the suction valve fixing member cylindrical in shape in order to conform to the receiving opening of plate 500 and use a round head rivet which are also cylindrical and notoriously well known in the art as inexpensive and secure means of attaching two materials or parts together. This fixing member would then obviously be forcibly fit onto the frontal side of the piston, such is the means of attachment for a rivet.

Allowable Subject Matter

5. Claims 5, 6, 9 and 10 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

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6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Park et al. (5,993,178) teach a linear compressor with a valved piston and a discharge cover with a spring biasing a discharge valve.
- Pettitt (5,163,819) teach a swash plate compressor with a reciprocating piston comprising a gas pathway and a suction valve assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan P. Gillan whose telephone number is 571-272-8381. The examiner can normally be reached on 8:00 am - 4:30 pm; Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RPG



CHARLES G. FREAY
PRIMARY EXAMINER